BROAD AGENCY ANNOUNCEMENT (BAA)

Capable Manpower Future Naval Warfighting Capability

Emerging and Advanced Technologies for Capable Manpower

INTRODUCTION

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select for award all, some or none of the proposals in response to this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

Potential offerors may obtain information on ONR programs and opportunities by checking the ONR website at http://www.onr.navy.mil/about/contracts.asp   Specific information about BAAs and amendments and updates to this BAA will be found at that site under the heading "BAAs". http://www.onr.navy.mil/02/baa/

I. GENERAL INFORMATION

1. Agency Name

Office of Naval Research

Contract and Grant Awards Management Division

875 North Randolph Street – Suite 1425

Arlington, VA 22203-1995

2. Research Opportunity Title

Emerging and Advanced Technologies for Capable Manpower

3. Program Name

Capable Manpower Future Naval Warfighting Capability

4. Research Opportunity Number

BAA 05-023

5. Response Date

White Papers: 23 September 2005

Full Proposals: 03 March 2006

6. Research Opportunity Description

The Capable Manpower (CM) Future Naval Warfighter Capability (FNWC) program office at the Office of Naval Research, is inviting pre-proposals (white papers) and later full proposals. These pre-proposals should suggest innovative science and technology developments to overcome the capability gaps described later in this announcement.

The Capable Manpower Future Naval Warfighter Capability program (CM) is a set of capability-development projects aimed at the human performance aspects of the Navy and Marine Corps. CM supports work to further human-systems integration, particularly in the areas of human factors engineering, manpower and personnel, and training.

In this announcement, the Navy and Marine Corps are seeking the development of innovative technology-based products to enable transformation in their Human Capital programs, including manpower/personnel, training, and human systems integration (HSI), that enable Systems Command (SYSCOM) program managers to optimize total system performance, minimize total ownership costs, and ensure that systems are built to accommodate the characteristics of the user population that will operate, maintain, and support systems, for the warfighting pillars of Sea Strike, Sea Shield, Sea Basing, and FORCEnet. A description of these Sea Power 21 pillars is at: http://www.chinfo.navy.mil/navpalib/cno/proceedings.html.

Reduced manning and increased mission requirements will demand greater competencies of Naval warfighters than ever before, and also greater synchrony among individual competencies, in teams and in interaction with complex systems. New approaches to selection, classification, distribution, assignment, training, performance support, and

system design are necessary to ensure that future combatants and related sea-service components are adequately staffed and have optimal readiness.

The Capable Manpower Future Naval Warfighter Capability program is dedicated to development and focused transition of ***products*** to the Navy / Marine Corps. Products are new technologies, methodologies, processes, systems, and/or devices, together with evidence of their cost/effectiveness, based on research and development. The goal is to deliver these products to Navy / Marine Corps customers, to improve system design, utilization, training, and performance of Sailors and Marines, enabling significant Manpower, Personnel, Training, and Human Systems cost savings and improved warfighting readiness.

An Executive Integrated Product Team (EIPT) comprised of Navy and Marine Corps flag and general officers and senior executives for Manpower/Personnel, Education and Training, Human-Systems Integration, and Science and Technology oversees the CM program. The CM FNWC office at the Office of Naval Research (ONR) executes the CM program.

6.1 Capability Gaps:

White Papers and subsequent Proposals are desired to develop technology-based ***products*** to address one or more of the following capability gaps. Integrated products that span more than one gap area are especially encouraged.

6.1.1: Capability Gap 1. "Manning to the Edge" The Human Capital Strategy for the Navy of the future will be difficult to execute efficiently with today's Manpower / Personnel, Training and Education (MPTE) systems.

DESIRED OVERALL OUTCOMES / OBJECTIVES:

–   Develop improved processes to better identify, forecast, and characterize requirements for human capital, as well as the "demand signals" at each stage of the MPTE supply chain.

–   Develop new processes, policies, incentives, and learning opportunities that together will provide the proper personnel inventory in terms of knowledge, skills, abilities and experience.

–   Develop new/reengineered business processes that streamline/simplify how Sailors and commands meet human capital needs ("lean consumption") while significantly lowering transaction costs, creating an MPTE integrated user environment with Sailor and command accessibility anytime, anywhere.

–   Mission-target career progression enabled by personal and professional development based on a structured framework utilizing blended learning events.

–   Create enterprise-wide content management environment aimed at improving productivity and knowledge for the Sailor and the MPTE organization.

–   Exploit commercial supply chain management tools and business practices to optimize the time and cost to produce FIT (person-job match) and provide end-to-end enterprise visibility.

–   Manage all MPTE resources using a portfolio management approach that focuses

investments on strategic initiatives.

- Measure the alignment of the MPTE organization and its processes to support the strategic themes and their initiatives.

SPECIFIC GAPS OR NEW TECHNOLOGIES (Exploration and advanced development may be exploited in the following areas):

- Active duty/Reserve/Civilian/Joint Forces labor substitution, labor integration, and joint military team utilization. Focus on metrics for optimal military-civilian-reserve integration/substitution.

- Flexibility to accomplish personnel distribution / assignment at or below the platform/command level.

- Allocation of resources across commands competing for the same human capabilities.

- Selection, classification, assessment, training, assignment, and cost metrics at the individual, team, unit, fleet, and force levels.

- Advanced selection, classification, assessment, training metrics to facilitate optimal labor integration and substitution,

  - Focus on team configuration, performance, disruption

- Nature of human capital situation awareness. How our current manpower, personnel, training, and education measures can support future situational awareness of human capital.

- Impact of reconfigurable teams, modularized platforms, continuous learning, optimized manning strategies on human capital data and information processes.

- Development of team configuration and performance metrics,

  - Point of entry → training schools → job performance → career satisfaction → retention.

  - Active duty, reserve, civilian, joint forces.

- Multi-faceted decision support tools to evaluate manpower alternatives.

- Tools for resource allocation across stakeholders,

  - Personnel behavior predictors,

  - Cost-benefit analysis.

- Alternative incentive structures.

PRODUCT GOALS / CHARACTERISTICS:

- Increased human resource flexibility,

- State-of-the-art decision support tools linked with Sea Warrior,

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– Total visibility and control of MPTE systems at all appropriate levels of command,

– Increased visibility and control over each individual unit's M&P inputs with decision authority driven down to appropriate command level,

– Sailor and Command-centric focus on MPTE service delivery.

6.1.2: Capability Gap 2: Human-Systems Integration. Congressional, DOD and Navy policies and instructions require Navy and Marine Corps Program Managers to have a comprehensive plan for Human Systems Integration in the acquisition process to optimize total system performance, minimize total ownership costs, and ensure the system is built to accommodate the characteristics of the user population that will operate, maintain, and support the system.

DESIRED OVERALL OUTCOMES / OBJECTIVES:

– Achieve required mission capabilities at lowest lifecycle cost.

– C4ISR and weapons systems optimally designed for the right number and types of personnel.

– Systems which require minimum training and provide high skill retention.

SPECIFIC GAPS OR NEW TECHNOLOGIES (Exploration and advanced development may be exploited in the following areas):

– Strategies, tools, databases, and technologies that describe, measure, and model human performance and in doing so, facilitate design for optimal individual and team performance both within and between personnel and other systems

– State-of-the-art databases of human performance, tools for planning, and decision aids to trade-off HSI alternatives involving material, manpower, personnel, training, human factors engineering, safety, occupational health, and habitability.

– Standardized, validated HSI tools and databases to support rapid, iterative system design and to analyze the dynamics of human-system interaction and integration. Specific technology developments are needed in the following:

  • Modeling and simulation,

  • Validated human performance assessments,

  • Creation, employment, and analysis of total systems performance capability/performance-based metrics,

  • Performance enhancing designs for mission planning and execution, decision support, and planning/decision aids,

  • Automation (technology) - workload paradox, supervisory control,

  • HSI graduate education,

  • HSI integration within multi-disciplinary engineering processes,

- Designing systems that support warfighter multi-tasking in minimum crew platforms,

- Creation of a comprehensive, standardized HSI 'toolbox',

- Enforcing HSI requirements for total system performance.

PRODUCT GOALS / CHARACTERISTICS / FEATURES:

– Standardized set of networked HSI-specific modeling and simulation tools,

– Design methodologies and tools which support rapid, spiral, human-centered design processes,

– Networked usability testing/human performance measurement capability and performance or design lessons learned,

– Task-centered design templates and practical examples for designers' reference,

– Web-based personnel-capability databases,

– Advanced physiology-based measures.

6.1.3: Capability Gap 3: Training and Education for the future Navy / Marine Corps: Naval Warfighting systems of the future will require expert employment of sensors, weapons and Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems in highly fluid warfare environments against non-traditional opponents, using platforms and systems which do not exist in sufficient quantity to permit extensive live training,

DESIRED OVERALL OUTCOMES / OBJECTIVES:

– Rapid Acquisition of Expertise in operations and maintenance using simulation and virtual environments, performance measurement and coaching.

– Expert-Level Performance in Reduced Manning Environments through cross training and certified competency before assignment.

– Enhanced Situation Awareness and Military Decision-Making using multi-modal or visualization-based training and decision support tools.

– Increased Training Efficiency using distributed learning/training, minimal instructor/exercise-monitor resources, and authoring tools.

– Adaptive Training using automated performance measurement and intelligent tutoring with automated interactive natural language.

SPECIFIC GAPS OR NEW TECHNOLOGIES (Exploration and advanced development may be exploited in the following areas):

– Distributed learning / training technologies.

– Simulation and virtual environment technologies.

– Enhanced situation awareness.

– Artificially intelligent tutoring technology, which incorporates sophisticated assessment and appropriately adapts training to improve training effectiveness and efficiency.

– Improved performance measurement, and rapid feedback, diagnosis, and remediation.

– Minimizing instructor and exercise-monitor resources.

– Development of the concept of "situation awareness" and how it is related to decision making and "long-term working memory".

– Training more complex skills such as problem solving, trouble-shooting,

– Coaching trainees during performance on dynamic tasks.

– Case based instruction for management and military decision making.

– Improved understanding of the development and use of complex visualizations and the skills involved in using/interpreting visualizations.

– Automated interactive natural language with speech.

– Efficient cross training in multiple skills.

– Adaptation of tools and other resources to aid necessary cognitive task analyses.

– Artificially intelligent performance assessment applied to team training.

– Extend existing training guidelines to more complex skills.

– Decision support tools.

– Networking technologies for distance learning.

PRODUCT GOALS / CHARACTERISTICS / FEATURES:

– Efficient and effective individual and team training maximizing the use of intelligent agents,

– Trained independent decision makers guided by commander's intent,

– Increased understanding and use of complex visualizations of military data,

– Personnel trained for "situation awareness" in support of decision making at all levels,

– Automated performance measurement and diagnosis integrated with training,

– Performance Measurement System and Repository serving all human systems information needs,

– Officer / executive competencies trained to full performance before assignment in reduced manning environments,

– Personnel trained in multiple skills to meet demands for flexibility in reduced manning environments,

– Multi-system maintainers and electronic performance support.

6.1.4: Capability Gap 4. Performance in Networked Environments: FORCEnet will integrate widely distributed sensor, weapon and C4ISR systems to provide network centricity, but the Navy and Marine Corps need a vision for the role of the human in network centric warfare.

DESIRED OVERALL OUTCOMES / OBJECTIVES:

– Unity of Team Action via network-enabled collaboration using modeling, simulation, and visualization systems.

– Expert Sailor and Marine Performance in Networked Warfare Environments using rapidly reconfigurable exercise and training systems.

– Integration and effectiveness in joint and coalition operations and homeland defense operations with Coast Guard and other agencies.

– Effective performance as "Battle Captain" at Marine Air Ground Task Force (MAGTF) level, (Especially O-3 and E-7 who miss professional level education).

SPECIFIC GAPS OR NEW TECHNOLOGIES (Exploration and advanced development may be exploited in the following areas):

– Task-centered design using effective information publishing across databases and mission domains.

– Effective knowledge sharing and distribution.

– Effective human attention management across diverse task domains.

– Modeling, simulation, and visualization systems.

– State-of-the-art performance support.

– Network-capable tools for planning, mission rehearsal, situational awareness of live operations, and reconstruction/feedback.

– Understanding of effective behavior in large distributed teams.

– Improved understanding of how warfighters' situation awareness is gained, maintained and shared in distributed networked environments.

– Tools to optimize human performance in large networked systems, including metrics and large human - system modeling.

– Adaptive systems that can remain flexible and evolve as mission requirements, procedures, and tasks change between fleet commands and across mission evolutions.

– Selection and training of individuals and teams to perform optimally in large networked environments, particularly at the Strike Group, Fleet, and Theater Command and Staff levels.

– Support for rapid exercise and training system reconfigurability with respect to the core concept of distributed human competencies.

– Automated decision aiding systems associated with naval operations risk assessment.

– Software tools to handle the unique information creation and distribution demands of large networked systems and to evaluate the validity of the outputs of these tools.

– Industry standards for information management and distribution in web-enabled publish & subscribe formats that support large distributed teams.

– Mission process and task visualization methods formatted for multiple-command level authority, approval, with task product tracking through mission processes.

– New approaches to creating valid computational models of individual, group and organizational behavior.

– Simulation systems and environments to address training and performance support in complex tasks, in large distributed team exercises, and in live operations, for mission planning, rehearsal, execution, and reconstruction.

– Automated performance assessment and automated instructional capabilities to provide effective training in large networked environments.

PRODUCT GOALS / CHARACTERISTICS / FEATURES:

– Techniques to train, establish and maintain situation awareness in networked environments, including new approaches to data fusion and transmission to support situation awareness and Course-of-Action analysis,

– Capability to reconfigure both technology and the human competencies required to address rapidly changing threat scenarios,

– New decision aiding technologies to provide real-time threat analysis distributable to commanders across large networks,

– Automated and semi-automated knowledge creation and distribution capabilities that scale to large networked systems,

– Affordable modeling and simulation tools to create valid predictive models of whole-system network performance at all scales,

– Extensive training capabilities to prepare sailors and marines to develop skills in network-centric operations and to train them to operate effectively in large distributed teams.

– Rapidly composable live and virtual environments to provide training, mission planning, mission rehearsal, and reconstruction for network-centric exercises and live operations.

6.1.5: Capability Gap 5: "Understanding our Opponents" Navy and Marine Corps warfighters need deep understanding of opponents' intent, tactics, techniques, procedures, cultures, language, and technologies in order to be capable of rapid and effective decision-making in asymmetric, multi-cultural, warfare environments; as well as to conduct Information Operations (IO).

DESIRED OVERALL OUTCOMES / OBJECTIVES:

– Understanding of opponent commanders' intent, tactical knowledge, and decision processes to plan and develop effects-based operations.

– Understanding of effects of US/Coalition action on decision processes and responses from a variety of multi-cultural perspectives.

– Improved training and education in foreign languages, cultural awareness, tactical intelligence, and urban operations.

– Effective communication with non-native English speaking combatants and non-combatants.

SPECIFIC GAPS OR NEW TECHNOLOGIES (Exploration and advanced development may be exploited in the following areas):

– Advanced training technology to provide language and cultural training, and training and exercise environments to use this knowledge for naval warfighting.

– Exploitation of networked databases of technical and tactical information.

– Improved understanding of how multi-cultural situation awareness is gained, maintained and shared.

– Performance aiding and networked collaboration to improve understanding.

– Advanced team training and simulation technologies to provide opportunity for exercise against intelligent opponents.

– Automated interactive natural language with speech.

– Application of social networking analysis technologies to naval warfighting.

– Technologies for translation developed by DARPA and the Army tailored for the unique needs of naval warfare.

– Behavior modeling and simulation technologies for intelligent opponent simulation.

PRODUCT GOALS / CHARACTERISTICS / FEATURES:

– Affordable, practical tools for multi-cultural interaction and understanding in naval warfighting environments,

– Design methodologies and tools which support rapid, human-centered design of opponent simulations,

- State-of-the-art decision support tools,
- Rapidly composable live and virtual environments to provide training, mission planning, mission rehearsal, and analysis for exercises and live operations,
- Capability to reconfigure both technology and the human competencies required to address rapidly changing threat scenarios,
- Techniques to train, establish and maintain situation awareness in asymmetric multi-cultural warfighting environments,
- Training complex skills involved in human interaction.

6.2. Transition Requirement

The CM program is dedicated to development and focused transition of ***products*** to fleet or shore commands, Programs of Record, and/or to engineering-development or acquisition programs at naval systems commands / Program Executive Offices. To help ensure this transition, a Technology Transition Agreement (TTA) will normally be required for each major product developed in an effort funded under this program. An exception to this requirement would be a product whose value would be recognized widely throughout the Navy / Marine Corps. Each TTA will be a formal memorandum of agreement among the product developer, the Office of Naval Research, and the transitioning command or program office, and will contain: (1) a description of the product(s) to be transitioned if the research and development is successful, (2) a description of the exit criteria the product(s) must meet in order to transition, (3) a statement of commitment by the receiving command or program office, should exit criteria be met, to fund further development or implementation, together with the Program Element and/or Budget Activity which will fund that transition. For efforts of less than three years duration, the TTA(s) will normally be required at project initiation. For longer projects, the TTA(s) will normally be completed no later than three years before intended transition.

7. Points of Contact

Questions of a technical nature shall be directed to the cognizant Science and Technical Point of Contact, as specified below:

Dr. Wallace H. Wulfeck

Capable Manpower Program Officer

Cognitive, Neural and Social Science and Technology Division

Code ONR 342CM

Office of Naval Research

875 North Randolph Street – Suite 1425

Arlington, VA 22203-1995

Telephone: (703) 588-2547 or (619) 553-9269

Fax: (703) 696-0332

Email: wulfecw@onr.navy.mil

Questions of a business nature shall be directed to the cognizant Contracting Officer, as specified below:

Mary Helen Moore

Office of Naval Research

Contract and Grant Awards Management Division

875 North Randolph Street – Suite 1425

Arlington, VA 22203-1995

Telephone: (703) 588-0471

Fax: (703) 696-0993

Email: moorem@onr.navy.mil

Important Note: The Technical or Business Points of Contact will not accept any white papers or proposals. White Papers and Full Proposals are to be sent to the Submission Coordinator as specified on page 22 of this announcement.   Questions of either a technical or business nature must be submitted via Email to the addresses above. US Mail or phone questions will not be answered.   White paper questions received up to 09 September 2005 and answers will be posted to the public ONR BAA website as answers are completed. Questions received after 09 September 2005 may not be answered. Proposal questions will be treated similarly until 17 February 2006.

8. Instrument Type(s)

Awards may be made in the form of (a) Cost-Plus-Fixed-Fee (CPFF) contracts directly from ONR, (b) fund allocations to Navy or Marine Corps research and development laboratories or centers who may then award their own contracts, (c) other appropriate fund transfer arrangements to other government laboratories/centers, or entities of coalition-partner governments. The Government reserves the right to award grants, cooperative agreements, or other transaction agreements to appropriate parties, should the situation warrant use of a non-contractual instrument.

9. Catalog of Federal Domestic Assistance (CDFA) Number

CFDA No.: 12.300

10. Catalog of Federal Domestic Assistance (CDFA) Title

CFDA Title: DoD Basic and Applied Scientific Research

II. AWARD INFORMATION

Individual proposals and/or integrated efforts that address Applied Research (Budget Category 6.2) and Advanced Technology Development (Budget Category 6.3) solutions are desired in the cost and period of performance range set forth below.

- Yearly Funding: $250,000/year to a maximum award of $5,000,000/year. However, lower and higher cost proposals may be considered. Most awards will be less than $5,000,000/year. There will be no Option Years.

- Period of Performance: The period of performance for projects may be from one to five years, with an estimated start date of 1 Oct 2007, subject to date of final award and availability of funds each fiscal year.

ONR anticipates that approximately $25,000,000 per year will be available to fund work proposed under this BAA. Proposals for less than the maximum dollar award are generally preferred, and it is possible that few or no awards may be made near or above the maximum funding level. Only an exceptionally important, highly-integrated effort with great transition potential would qualify for an award at the maximum level.

The Office of Naval Research is seeking participants for this program that are capable of supporting the goals described in this announcement. Offerors have the opportunity to be creative in the selection of the technical and management processes and approaches to address the technology thrust areas.

ONR and other DOD agencies have funded related technology development under numerous programs. If offerors are enhancing work performed under other ONR or DoD projects, they must clearly identify the point of departure and what existing work will be brought forward and what new work will be performed under this BAA.

III. ELIGIBILITY INFORMATION

All responsible sources may submit a proposal, which shall be considered by the Government. Foreign companies/entities from The Technology Cooperation Program (TTCP) member-countries may be considered under this announcement. Historically Black Colleges and Universities (HBCU) and Minority Institutions (MI) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation due to the impracticality of reserving discrete or severable areas of MPTE&HSI technologies for exclusive competition among these entities.

Independent organizations and teams are encouraged to submit proposals in any or all capability-gap areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.

Industry-Academia-Government Partnering

ONR highly encourages partnering among industry, academia, and/or Government with a view toward speeding the incorporation of new science and technology into fielded systems. Government partners may include naval systems commands, naval laboratories or centers, or fleet / force commands. Proposals that use industry-academic-Government

partnering which enhances the development of novel S & T advances will be given favorable consideration.

The Technology Cooperation Program (TTCP)

Under terms of the TTCP agreement among member nations (USA, United Kingdom, Canada, Australia, New Zealand), participation among member nations for collaborative science and technology is encouraged. See the http://www.dtic.mil/ttcp/ web pages for further information. While transition of products to USA Navy / Marine Corps customers is the main goal, collaboration with TTCP partners may often be beneficial. In general, such arrangements will likely involve agreements with a US government partner as described in the preceding section.

Teaming Arrangements

ONR encourages partner or teaming arrangements but only one entity should be designated the technical and business Point of Contact for a team/partnership. That entity will be responsible for proposal submission, communications, and subsequent negotiations (if any).

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process

(A) White Papers:

Due Date: The due date for white papers is no later than 4 p.m. (Local Eastern Time) on 23 September 2005. Each white paper should state that it is submitted in response to this BAA. Each white paper should also state which Capability Gap(s) it addresses. Offerors can reference more than one Capability Gap in their submission, and integrative solutions which cross gaps are encouraged.

Evaluation/Notification: Initial Navy evaluations of the white papers will be issued via email notification on or about 04 November 2005. Detailed technical and cost proposals will be subsequently encouraged from those offerors whose proposed technologies have been identified through the above-referenced email as being of "particular value" to the Navy. However, any such encouragement does not assure a subsequent award.

During the white paper evaluations, evaluators may notice similarities in different offerors' approaches and/or proposed products. In cases where the Navy evaluators believe that synergies might occur among two or more offerors, the Evaluation E-mail described above may include the title and name and contact information for any white paper(s) that the evaluators believe may be related. No other information from an offeror will be disclosed to any other offeror. Offerors so notified are encouraged, but are not required, to share information and collaborate in the preparation of a full proposal.

During the white paper evaluations, evaluators may notice opportunities for collaborative product development among, or product transition to, Navy / Marine Corps Laboratories, Centers, Program Offices, System Commands, or Operating

Commands in addition to any plans described in the white paper. In cases where the evaluators believe that more effective development or transition may result, the Evaluation E-mail described above may include contact information for a Government Point of Contact at a government facility. Offerors so notified are encouraged, but are not required, to collaborate or coordinate their submission of a full proposal, and subsequent product transition, with or through that Point of Contact.

Submission of Full Proposal: Any offeror may submit a full proposal even if its white paper was not identified as being of "particular value". However, the Navy's initial evaluation of the white papers should give proposers some indication of whether a later full proposal would likely result in an award.

Full proposals will not be considered under this BAA unless a white paper was received before the white paper due date specified above.

(B) Oral Presentations:

The purpose of the oral presentation is to better acquaint the Government with the Offeror's proposal; especially its understanding of how the proposed technology will affect military applications. Offerors' technologies identified through the white paper reviews as being of "particular value" to the Navy will be invited to make an oral presentation of their white papers to a panel of government evaluators. Offerors whose proposed technologies were not identified through the white paper review process as being of "particular value" to the Navy may still make an Oral Presentation of their white paper to the Government. Those Offerors should contact the Submission Coordinator identified in paragraph 5 of page 22 to request a time/date for an Oral Presentation. The exact time and location of the oral presentations will be provided at a later date via E-mail notification. However, this review is tentatively planned for the week of 14 November 2005.

(C) Full Proposals:

The due date for receipt of Full Proposals is 4 p.m. (EDT) on 03 March 2006. It is anticipated that final selections will be made approximately 45 days after full proposal submission. As soon as the final proposal evaluation process is completed, the proposer will be notified via email of its selection or nonselection for an award. Proposals exceeding their page limit may not be evaluated.

2. Content and Format of White Papers and Full Proposals

The White Papers and Proposals submitted in response to this BAA are expected to be unclassified. While classified work may be proposed, only unclassified white papers and proposals are permitted. The proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207, applicable law, and DOD/DON regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information. Only pages that contain proprietary information should be so marked; do not mark all pages with a "boilerplate" statement. The Proposal shall include a severable, self-standing Statement of Work which contains only unclassified information and does not include any proprietary restrictions.

IMPORTANT NOTE: Titles given to the white papers/proposals should be descriptive of the work they cover and not be merely a copy of the title of this announcement. Titles must not be marked as proprietary.

(A) WHITE PAPERS

Offerors can reference more than one Capability Gap in their submission. In addition to the cover page described above, white papers must include the following information:

Administrative Information:

Title. The Title given to the white paper/proposal should be descriptive of the work they cover and not be merely a copy of the title of this solicitation. Titles may not contain proprietary or other non-public information.

Principal Investigator Name, Phone and E-mail Address

Institution

Mailing Address

Co-Investigator(s) Names

Project Title

Append a *Curriculum Vita* (CV) for each principal investigator and any other critical personnel, and supporting material if desired. CVs are not to exceed three pages each.

Technical Section:

Capability Gap(s) Addressed

Objective of Proposed Development

Naval Significance of Proposed Development

Scientific Significance of Proposed Development

Specific Products to be Produced

Work Plan (body of document)

Preliminary Plan for Transition of Products to Operation or Acquisition.

Format – Technical portion: The technical part of the white paper should include those items described above, but should not exceed 10 pages and should focus on the proposed technical concept and approach within the Capability Gap areas of interest described earlier. White papers exceeding any of these page restrictions may not be reviewed.

Cost Section:

Format – Cost portion: A two-page cost proposal should be included with the white paper submission. The first page of the cost proposal should be a summary of costs segregated by task including Quarterly Budget

Estimates for First Year and Budget Estimates for each fiscal year (1 Oct through 30 Sept) for the proposed period of performance up to five years. The second page should be a summary of costs segregated by cost category. White papers exceeding any of these page restrictions may not be reviewed.

White papers must be received no later than 4 p.m. (EDT), **23 September 2005**. White papers received after the due date will not be considered. The technical part of the white paper should include the above stated items, but should not exceed 10 pages and should focus on the proposed technical concept, developmental approach, and transition approach using the above-mentioned technical section outline. The administrative information cover page and *curricula vitae* will not count toward the ten-page limit. White papers exceeding the page restrictions may not be reviewed.

(B) FULL PROPOSALS

Format – Volume 1 (Technical Proposal) and Volume 2 (Cost Proposal)

- Paper Size – 8.5 x 11 inch paper

- Margins – 1" inch

- Spacing – single or double-spaced

- Font – Times New Roman, 12 point

- Number of Pages – Volume 1 is limited to no more than 30 pages. Volume 2 has no page limit. The cover page, table of contents, and resumes are excluded from the page limitations. Full Proposals exceeding the page limit may not be evaluated.

- Copies – one (1) original, 5 copies and one electronic copy on CD-ROM or DVD, (in Microsoft® Word or Excel 97 compatible or .PDF format).

Content of Volumes 1 and 2

Volume 1: Technical Proposal

Volume 1 of the Full Proposal shall include the following sections, each starting on a new page. Please pay attention to the page limitations for each section as specified below.

1) Title Page: (Not included in page limitations.) This should include the words "Technical Proposal" and the following:

(a) BAA number;

(b) Title of Proposal;

(c) Identity of prime Offeror and complete list of subcontractors, if applicable;

(d) Principal Investigator (PI) contact (name, address, phone/fax, electronic mail address);

        (e) Business contact (name, address, phone/fax, electronic mail address); and,

        (f) Duration of effort

2) <u>Table of Contents</u>: (Not included in page limitations.)

3) <u>Executive Summary</u>: (2 pages) Summarize the technology products you are proposing to develop and the expected improvements to Navy / Marine Corps capability.

4) <u>Concept of Operation:</u> (2 pages) A summary of the way in which the proposal's product(s) would support the Navy / Marine Corps in an operational context. Include quantitative specifications for how the products will fill capability gaps or improve operational performance.

5) <u>Plan for Transition of Products to Operation or Acquisition</u>: (2 pages) For each of the proposal's products, describe the intended transition plan including: the Navy or Marine Corps operational or system command(s) or program executive office which is planned to execute the Technology Transition Agreement (TTA) to implement or further develop the product; and the name of the transition program of record (if applicable). This section should provide an estimate and description of additional (post S&T) costs for engineering development and/or acquisition which would be required to effect product implementation or utilization.

6) <u>Statement of Work</u>: (5 pages) A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award. Include a detailed, numbered listing of the technical tasks/subtasks organized by year.

7) <u>Project Schedule and Milestones</u>: (1 page) A summary of the schedule of events and milestones.   Please note that periods of performance will begin on or after 1 October 2007.

8) <u>Assertion of Data Rights</u>: (1 page). Include here a summary of any proprietary rights to pre-existing data related to techniques, prototypes, or systems supporting and/or necessary for the use of the research, results, prototypes and/or products for this project. Any rights made in other parts of the proposal that would impact the rights in this section must be cross-referenced. If there are proprietary rights, the Offeror must explain how these affect its ability to deliver products, or any subsystems, computer programs, or toolkits for integration or for further development. Additionally, Offerors must explain how the program goals are achievable in light

of these proprietary and/or restrictive limitations. Offerors asserting Data Rights must do so in accordance with the clause DFARS 252.227-7017 entitled "Identification and Assertion of Use, Release, or Disclosure Restrictions." The table submitted in accordance with this clause should be a severable attachment to the proposal, which will not be counted towards the page limitations. If there are no claims of proprietary rights in pre-existing data, this section shall consist of a statement to that effect.

9) <u>Technical Approach, Deliverables, and Exit Criteria</u>: (9 pages) A detailed description of the approach planned, results targeted and products to be delivered, including quantifiable exit criteria products must meet in order to be accepted by transitioning organizations.

10) <u>Operational Utility</u>: (2 pages) A detailed plan for assessing the achievement of exit criteria for the key products of this effort during a Fleet or Marine operational exercise, or Navy / Marine Corps try-out, including proposed metrics.

11) <u>Qualifications</u>: (3 pages) A discussion of previous accomplishments and work in this, or closely related, areas, and the qualifications of the investigators. Key personnel resumes shall be attached to the proposal and will not count toward the page limitations.

12) <u>Management Approach</u>: (3 pages) A discussion of the overall approach to the management of this effort, including brief discussions of the total organization, use of personnel, project/function/subcontractor relationships, government research interfaces, and planning, scheduling and control practice. Identify which personnel and subcontractors (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment, Hardware, Software, and/or Information required, by version and/or configuration.

Volume II: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts, Part 1 and Part 2. Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar/fiscal year and Part 2 will provide a cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

- <u>Cover Page</u>: The use of the SF 1411 is optional. This proposal should include the words "Cost Proposal" and the following:

    1) BAA number;

    2) Title of Proposal;

    3) Identity of prime Offeror and complete list of subcontractors, if applicable;

4) Technical contact (name, address, phone/fax, electronic mail address);

5) Administrative/business contact (name, address, phone/fax, electronic mail address);

6) Duration of effort; and a

7) Summary statement of proposed costs

● Part 1: Detailed breakdown of all costs by cost category by calendar/fiscal year:

1) Direct Labor - Individual labor category or person, with associated labor hours and unburdened direct labor rates;

2) Indirect Costs - Fringe Benefits, Overhead, G&A, COM, etc. (Must show base amount and rate)

3) Proposed contractor-acquired equipment, such as, but not limited to, computer hardware for proposed research projects should be specifically itemized with costs or estimated costs, if it is being proposed as a direct cost. An explanation of any estimating factors, including their derivation and application, should be provided. Please include a brief description of the Offeror's procurement method to be used;

4) Travel - Number of trips, number of days per trip, departure and arrival destinations, number of people, etc;

5) Subcontract - A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date;

6) Consultants- Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;

7) Materials should be specifically itemized with description of proposed items and associated number of units, unit costs and total amount. An explanation of any estimating factors, including their derivation and application, shall be provided. Please include a brief description of the Offeror's procurement method to be used;

8) Other Directs Costs should be itemized with description of proposed items and associated number of units, unit costs and total amount. Backup documentation should be submitted to support proposed costs; and

9) For proposed procurement contracts, the Offeror's proposed Fee/Profit, including fee percentage.

● Part 2: Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

3. Significant Dates and Times

Anticipated Schedule of Events		
Event	Date (MM/DD/YEAR)	Time (Local Eastern Time)
White Paper Due Date (Page Limit: 10)	23 Sept 2005	1600
Notification on Evaluation of White Papers *	04 November 2005	COB
Oral Presentations *	Mid November 2005	TBD
Full Proposals Due Date (Page Limit: 30)	03 March 2006	1600
Notification of Selection: Full Proposals *	45 days after Full Proposal Due Date	N/A
Contract Awards *	2007	N/A
Period of Performance begins	1 October 2007	N/A

* These dates and times are estimates as of the date of this announcement.

4. Submission of Late Proposals

Any proposal, modification, or revision, that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and

(a) If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(b) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or

(c) It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extend to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

5. Address for the Submission of White Papers and Full Proposals

Capable Manpower Submission Coordinator

Cognitive, Neural and Social Science and Technology Division

Office of Naval Research

Suite 1425, Code ONR 342CM

875 North Randolph Street

Arlington, VA 22203-1995

NOTE: PROPOSALS SENT BY FAX OR EMAIL WILL NOT BE CONSIDERED.

V. <u>EVALUATION INFORMATION</u>

1. Evaluation Criteria -

The following evaluation criteria apply to both the White Papers and the Full Proposals.

These submissions will be selected through a technical/scientific/transition/cost decision process with technical and scientific considerations and transition potential being more important than cost. Even though cost is of less importance than all the technical factors combined, it will not be ignored. The degree of its importance will increase with the degree of equality of the proposals in relation to the other factors on which selection is to be based, or when the cost is so significantly high as to diminish the value of the technical superiority to the Government. Criteria A-D are listed in descending order of

priority. Any subcriteria listed under a particular criterion are of equal importance to each other.

A. Overall scientific / technical merit, quality, and feasibility of the proposal

(1) The degree of innovation or originality

(2) The soundness of technical concept

(3) The offeror's awareness of the state-of-the-art and understanding of the scope of the problem and the technical effort needed to address it

B. Naval relevance, transition potential and anticipated contributions of the proposed technology to human-systems-integration in naval operations.

(1) Likelihood that the proposed work will result in transitionable product(s) which address one or more of the capability gaps described in this announcement.

(2) Potential to enhance the overall management or performance of military personnel, which includes selection, training and education, distribution, assignment, and the design of human-system interfaces, and the integration of humans in naval systems.

(3) Perceived need and benefit of the proposed research and understanding of the Fleet capability or warfare area to which transition would occur

C. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities and experience of the proposed principal personnel

(1) The quality of technical personnel proposed including qualifications, capabilities and experience of the proposed Principal Technical Investigator, Project Manager, and other key personnel critical in achieving the proposed objectives

(2) The offeror's experience in relevant efforts with similar resources, including experience in transitioning products to operations or acquisition.

(3) The ability to manage the proposed effort, and adequacy of offeror's facilities to conduct proposed development.

D. The realism of the proposed cost

(1) Total cost relative to benefit

(2) Realism of cost levels for facilities and staffing

Socio-Economic Merits - For proposed awards made as contracts, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities (to the maximum extent practicable) for small businesses, HUBZone small businesses, small disadvantaged businesses, woman-owned small businesses, veteran-owned small businesses, service

disabled veteran small businesses, historically black colleges and universities, and minority institutions.

Industry-Government Partnering – ONR highly encourages partnering among industry and Government with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-Government partnering which enhances the development of novel S&T advances will be given favorable consideration.

2. Evaluation Panel

Potential Offerors should understand that government technical experts drawn from the Office of Naval Research and other naval and defense activities/agencies will participate in the evaluation of the White Papers/Full Proposals. The Government may use selected support personnel to assist in providing both technical expertise and administrative support regarding any ensuing proposals from this announcement. These support contractors will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements

- The North American Industry Classification System (NAICS) code - The North American Industry Classification System (NAICS) code for this announcement is 541710 with a small business size standard of 500 employees.

- CCR - Successful offerors not already registered in the Central Contractor Registry (CCR) will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at http://www.onr.navy.mil/02/ccr.htm

- Certifications - Proposals should be accompanied by completing two separate certification packages: one certification package for Federal Acquisition Regulation (FAR) clauses in accordance with FAR 4.1201, and one certification package for Defense Federal Acquisition Regulation Supplement (DFARS) clauses. FAR certification packages should be completed online with ORCA at http://orca.bpn.gov/login.aspx. Supplemental DFARS and contract specific certification packages should be completed via the ONR website at http://www.onr.navy.mil/02/rep_cert.asp.

- Subcontracting Plans - Successful contract proposals that exceed $500,000, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award. This requirement also applies to non-profits, including educational institutions.

2. Reporting

The following is a sample of reporting deliverables that could be required under a research effort. The following deliverables, primarily in contractor format, are anticipated as necessary. However, specific deliverables should be proposed by each offeror and finalized with the contracting agent:

- Detailed Technical Data
- Monthly Technical and Financial Progress Reports
- Presentation Material(s)
- Other Documentation or Reports as required, including reports on results of experimentation or try-outs of products.
- Final Report

VII. <u>OTHER INFORMATION</u>

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Each offeror must provide a very specific description of any equipment/hardware that it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment / hardware will be included as part of a deliverable item under the resulting award. Also, this description should identify the component, nomenclature, and configuration of the equipment/hardware proposed to be purchased for this effort. It is the Government's desire to have the contractors purchase the equipment/hardware for deliverable items under their contract. The purchase on a direct reimbursement basis of special test equipment or other equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis.

Offerors are expected to provide all facilities (equipment and/or real property) necessary for the performance of the proposed effort. Any direct charge of facilities, not including deliverable items, must be specifically identified in the Offeror's proposal and approved by the Government prior to purchase. In addition, any request to use Government owned facilities must be included in the Offeror's proposal and approved in advance by the cognizant Government official. After contract award, requests to use Government integration, test, and experiment facilities will be considered on a case by case basis based on availability and justification of need.

2. Security Classification

All proposals are expected to be unclassified. However, confidential/classified work is permitted.

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable awardees to work at the unclassified level to the maximum extent possible. However, to ensure transition, classified work may be necessary to ensure relevance and realism of products.

If awardees use unclassified data in their deliveries and demonstrations regarding a potential classified project, they should use methods and conventions consistent with those used in classified environments. Such conventions will permit the various subsystems and the final system to be more adaptable in accommodating classified data in the transition system.

3. Project Meetings & Reviews

Individual program reviews between the ONR sponsor and the performer may be held as necessary.

Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, Offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools. Offerors should, however, plan for substantial contact with transition customers and/or fleet users for products, normally at customer/user locations, including at-sea or deployed locations when necessary.

4. Use of Animals and Human Subjects in Research:

If animals are to be used in the research effort proposed, the offeror must complete a DoD Animal Use Protocol with supporting documentation (copies of AAALAC accreditation and/or NIH assurance, IACUC approval, research literature database searches, and the two most recent USDA inspection reports) prior to award. Similarly, for any proposal that involves the experimental use of human subjects, the offeror must obtain approval from the offeror's committee for protection of human subjects (normally referred to as an Institutional Review Board, (IRB)). The offeror must also provide NIH (OHRP/DHHS) documentation of a Federalwide Assurance that covers the proposed human subjects study. If the offeror does not have a Federalwide Assurance, a DoD Single Project Assurance for that work must be completed prior to award. Please see http://www.onr.navy.mil/02/howto.htm for further information.

5. Interactive Courseware or Training Materials:

For products developed under an award pursuant to this announcement, in accordance with DOD Instruction 1322.20 and OPNAV Instruction 1500, the government will obtain, to the extent authorized by the Federal Acquisition Regulations (FAR), unlimited rights or Government-purpose license rights to the training programs, courseware, associated presentation programs necessary to develop, interpret, and execute the courseware, documentation, and associated training materials for all ICW programs developed for or by the DON. These rights shall include the royalty-free rights to use, duplicate, and disclose data for Government purposes and to permit others to do so for

Government purposes. The Government shall not agree to pay royalties, recurring license or run-time fees, use tax, or similar additional payments for courseware, associated presentation programs necessary to interpret and execute the courseware, documentation, or associated training materials for ICW programs developed for or by the Department of the Navy (DON).